KGVSLSYRCPCRFF(CH_2)$_n$ EEWVQKYVDDLELSA (SEQ ID No. 129),

Q12

where n is 0 or an integer between 1 and 20.

At the end of the Application:

Please insert the enclosed sequence listing.

Remarks

The above amendment introduces a sequence listing and corrects various typographical errors made in the application as originally filed. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."** As can be seen, the above amendments introduce no new matter to the application. Therefore, their entry to the specification is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-0815.

Respectfully submitted,

BOZICEVIC, FIELD & FRANCIS LLP

Date: September 17, 2001

By: _____
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Registration No. 37,620

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Line 15 on page 5 has been amended as follows:

DNA techniques, a selected ~~nucliec~~ nucleic acid, such as a gene, may be isolated, placed

The paragraph beginning at line 8 on page 17 has been amended as follows:

A variety of small SDF-1 peptide analogues may also be used as CXCR4 antagonists, as disclosed in International Patent Publications WO 00/09152 (published 24 February 2000) and WO 99/47158 (published 23 September 1999), each of which is incorporated herein by reference. One such peptide may be a monomer having the following sequences~~;~~:

KGVSLSYRCPCRFFESH (SEQ ID No. 13); KGVSLSYRC (SEQ ID No. 14), or dimer of amino acids 1-9 (within SEQ ID No. 13), in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence (designated SDF-1 $(1\text{-}9)_2$[P2G] with the following sequence: (SEQ ID No. 15) KGVSLSYRC-CRYSLSV~~P~~GK (SEQ ID No. 15)(i.e. two molecules of SEQ ID No. 15 bonded in a dimer)). Other ~~An~~ alternative peptides may for example be selected from the group consisting of peptides: (SEQ ID No. 16) KGVSLSYR-X-RYSLSV~~P~~GK (SEQ ID No. ~~16~~)17)(i.e. SEQ ID No. 16 and SEQ ID No. 17 bonded in a dimer), that is a dimer of amino acids 1-8, in which the amino acid chains are joined by a linking moiety X (X may be an amino acid like lysine; ornithine or any other natural or unnatural amino acid serving as a linker between each of the arginines at position 8 in each sequence (designated SDF-1 $(1\text{-}8)_2$[P2G]). Here again the notion of beta-turn mimetic was applied either for monomer (SEQ ID No. 13) in this case the following analogues were designated (SEQ ID Nos.~~17-27~~ 18-28)

Line 26 of the old specification (line 27 of the new specification) on page 17 has been amended as follows:

KGVS**P**SYRCPCRFFESH (SEQ ID No. ~~17~~ 18)

Line 1 of page 18 has been amended as follows:

KGVSL**P**YRCPCRFFESH (SEQ ID No. ~~18~~ 19)

Line 3 of page 18 has been amended as follows:

KGVSLS**P**RCPCRFFESH (SEQ ID No. ~~19~~ 20)

Line 5 of page 18 has been amended as follows:

KGVSLSY**P**CPCRFFESH (SEQ ID No. ~~20~~ 21)

Line 7 of page 18 has been amended as follows:

KGVS**P***SYRCPCRFFESH (SEQ ID No. ~~21~~ 22)

Line 9 of page 18 has been amended as follows:

KGVSL**P***YRCPCRFFESH (SEQ ID No. ~~22~~ 23)

Line 11 of page 18 has been amended as follows:

KGVSLS**P***RCPCRFFESH (SEQ ID No. ~~23~~ 24)

Line 13 of page 18 has been amended as follows:

KGVSLSY**P***CPCRFFESH (SEQ ID No. ~~24~~ 25)

Line 15 of page 18 has been amended as follows:

KGVS**Btd**YRCPCRFFESH (SEQ ID No. ~~25~~ 26)

Line 17 of page 18 has been amended as follows:

KGVSL**Btd**RCPCRFFESH (SEQ ID No. ~~26~~ 27)

Line 19 of page 18 has been amended as follows:

KGVSLS**Btd**CPCRFFESH (SEQ ID No. ~~27~~ 28)

Line 24 of page 18 has been amended as follows:

KGVS**P**SYRC (SEQ ID No. ~~28~~ 29)

Line 26 of page 18 has been amended as follows:

KGVSL**P**YRC (SEQ ID No. ~~29~~ 30)

Line 28 of page 18 has been amended as follows:

KGVSLS**P**RC (SEQ ID No. ~~30~~ 31)

Line 30 of page 18 has been amended as follows:

KGVSLSY**P**C (SEQ ID No. ~~31~~ 32)

Line 32 of page 18 has been amended as follows:

KGVS**P***SYRC (SEQ ID No. ~~32~~ 33)

Line 34 of page 18 has been amended as follows:

KGVSL**P***YRC (SEQ ID No. ~~33~~ 34)

Line 1 of page 19 has been amended as follows:

KGVSLS**P***RC (SEQ ID No. ~~34~~ 35)

Line 3 of page 19 has been amended as follows:

KGVSLSY**P***C (SEQ ID No. ~~35~~ 36)

Line 5 of page 19 has been amended as follows:

KGVS**Btd**YRC (SEQ ID No. ~~36~~ 37)

Line 7 of page 19 has been amended as follows:

KGVSL**Btd**RC (SEQ ID No. ~~37~~ 38)

Line 9 of page 19 has been amended as follows:

KGVSLS**Btd**C (SEQ ID No. ~~38~~ 39)

The paragraph beginning at line 11 of page 19 has been amended as follows:

Alternative peptides based on SEQ ID No. 15 are as follows, designated (SEQ ID Nos. ~~39-49~~ 40-50)

The Paragraph beginning at line 1 on page 20 has been amended as follows:

In the same manner analogues based on the SEQ ID No. 16 are as follows, designated SEQ ID Nos.

~~50-61~~ 51-72).

Line 4 on page 21 has been amended as follows:

terminus, and/or an N-terminal RFFESH (SEQ ID No. ~~62~~ 73) sequence motif within 20

Line 7 on page 21 has been amended as follows:

acids 5-7. Alternative peptides further include the RFFESH (SEQ ID No. ~~62~~ 73) motif at

Line 27 on page 21 has been amended as follows:

KGVSLSYRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. ~~63~~ 74)

Line 28 on pgae 21 has been amended as follows:

KGVSLSYRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. ~~64~~ 75)

Line 7 on page 22 has been amended as follows:

KGVSLSYRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~65~~ 76)

Line 8 on page 22 has been amended as follows:

KGVSLSYRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~66~~ 77)

Line 20 on page 22 has been amended as follows:

KGVS**P**SYRCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~67~~ 78)

Line 21 on page 22 has been amended as follows:

KGVSL**P**YRCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~68~~ 79)

Line 22 on page 22 has been amended as follows:

KGVSLS**P**RCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~69~~ 80)

Line 23 on page 22 has been amended as follows:

KGVSLSY**P**CPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~70~~ 81)

Line 24 on page 22 has been amended as follows:

KGVS**P**SYRCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~71~~ 82)

Line 25 on page 22 has been amended as follows:

KGVSL**P**YRCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~72~~ 83)

Line 26 on page 22 has been amended as follows:

KGVSLS**P**RCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~73~~ 84)

Line 27 on page 22 has been amended as follows:

KGVSLSY**P**CPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~74~~ 85)

Line 28 on page 22 has been amended as follows:

KGVS**P**SYRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~75~~ 86)

Line 29 on page 22 has been amended as follows:

KGVSL**P**YRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~76~~ 87)

Line 30 on page 22 has been amended as follows:

KGVSLS**P**RCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~77~~ 88)

Line 31 on page 22 has been amended as follows:

KGVSLSY**P**CPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~78~~ 89)

Line 32 on page 22 has been amended as follows:

KGVS**P**SYRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~79~~ 90)

Line 33 on page 22 has been amended as follows:

KGVSL**P**YRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~80~~ 91)

Line 1 on page 23 has been amended as follows:

KGVSLSPRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~81~~ 92)

Line 2 on page 23 has been amended as follows:

KGVSLSYPCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~82~~ 93)

The paragraph beginning at line 9 on page 23 has been amended as follows:

In other embodiments, leucine (L), ~~Seine~~ Serine (S), tyrosine (Y) or arginine (R) may be substituted with proline-amino acid ~~chemira~~ chimera (**P***) (similar to ~~Seq~~ SEQ ID Nos. 6-9 for the full length SDF-1 antagonist):

Line 13 on page 23 has been amended as follows:

KGVS**P***SYRCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~83~~ 94)

Line 14 on page 23 has been amended as follows:

KGVSL**P***YRCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~84~~ 95)

Line 15 on page 23 has been amended as follows:

KGVSLS**P***RCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~85~~ 96)

Line 16 on page 23 has been amended as follows:

KGVSLSY**P***CPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~86~~ 97)

Line 17 on page 23 has been amended as follows:

KGVS**P***SYRCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~87~~ 98)

Line 18 on page 23 has been amended as follows:

KGVSL**P***YRCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~88~~ 99)

Line 19 on page 23 has been amended as follows:

KGVSLS**P***RCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~89~~ 100)

Line 20 on page 23 has been amended as follows:

KGVSLSY**P***CPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~90~~ 101)

Line 21 on page 23 has been amended as follows:

KGVS**P***SYRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~91~~ 102)

Line 22 on page 23 has been amended as follows:

KGVSL**P***YRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~92~~ 103)

Line 23 on page 23 has been amended as follows:

KGVSLS**P***RCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~93~~ 104)

Line 24 on page 23 has been amended as follows:

KGVSLSY**P***CPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~94~~ 105)

Line 25 on page 23 has been amended as follows:

KGVS**P***SYRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~95~~ 106)

Line 26 on page 23 has been amended as follows:

KGVSL**P***YRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~96~~ 107)

Line 27 on page 23 has been amended as follows:

KGVSLS**P***RCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~97~~ 108)

Line 28 on page 23 has been amended as follows:

KGVSLSY**P***CPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~98~~ 109)

The paragraph beginning at line 1 on page 24 as been amended as follows:

In some embodiments, the peptidomimetics are of BTD (Bicyclo Turned Dipeptide) as

described previously for the full length SDf-1 antagonist (SEQ ID Nos. ~~99-110~~ 110-121):

Line 6 on page 24 has been amended as follows:

KGVS**Btd**YRCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~99~~ 110)

Line 7 on page 24 has been amended as follows:

KGVSL**Btd**RCPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~100~~ 111)

Line 8 on page 24 has been amended as follows:

KGVSLS**Btd**CPCRFF- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~101~~ 112)

Line 9 on page 24 has been amended as follows:

KGVS**Btd**YRCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~102~~ 113)

Line 10 on page 24 has been amended as follows:

KGVSL**Btd**RCPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~103~~ 114)

Line 11 on page 24 has been amended as follows:

KGVSLS**Btd**CPCRFFESH- GGGG-LKWIQEYLEKALN (SEQ ID No. ~~104~~ 115)

Line 12 on page 24 has been amended as follows:

KGVS**Btd**YRCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~105~~ 116)

Line 13 on page 24 has been amended as follows:

KGVSL**Btd**RCPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~106~~ 117)

Line 14 on page 24 has been amended as follows:

KGVSLS**Btd**CPCRFF- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~107~~ 118)

Line 15 on page 24 has been amended as follows:

KGVS**Btd**YRCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~108~~ 119)

Line 16 on page 24 has been amended as follows:

KGVSL**Btd**RCPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~109~~ 120)

Line 17 on page 24 has been amended as follows:

KGVSLS**Btd**CPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. ~~110~~ 121)

Line 8 on page 25 has been amended as follows:

following analogues were designated (SEQ ID Nos. ~~111-114~~ 122-125).

The paragraph beginning at line 10 on page 25 has been amended as follows:

In some embodiments, glutamic acid (E) at position 24 ~~and~~ may be substituted with aspartic acid (D) and the aspartic acid cyclized with lysine at position 20 or 28 as described previously. In other embodiments, lysine at position 20 or 28 may be substituted with ornithine cyclized with either aspartic acid or glutamic acid at position 24 as described previously. This kind of substitution followed by cyclisation can be done with all analogues described above (SEQ ID Nos. ~~67-110~~ 78-121).

The paragraph beginning at line 17 on page 25 has been amended as follows:

~~In other embodiments, lysine (K) at position 20 or 28 may be substituted with ornithine (O) (SEQ ID No. 42 to 73) and ornithine at position 20 or 28 cyclized with gutamic acid (or with substituted aspartic acid (SEQ ID No. 74-89)) at position 24 as described previously.~~ Additionally, to form other cyclic rings, lysine may be substituted by leucine (L), or other ~~hydrophpobic~~ hydrophobic residues such as isoleucine (I), norleucine (Nle), valine (V), alanine (A), tryptophan (W), or phenylalanine (F). Lysine may also be substituted with methionine, however, methionine oxides and forms a disulphide bond making the peptide synthesis and purification more difficult.

Line 10 of the old specification (line 7 of the new specification) on page 26 has been amended as follows:

KGVSLSYRCPCRFFGGGGSKPGVIFLTKRSRQV (SEQ ID NO. ~~115~~ 126)

Line 11 of the old specification (line 8 of the new specification) on page 26 has been amended as follows:

KGVSLSYRCPCRFF$(CH_2)_n$ SKPGVIFLTKRSRQV (SEQ ID No. ~~116~~ 127)

Line 14 of the old specification (line 11 of the new specification) on page 26 has been amended as follows:

KGVSLSYRCPCRFFGGGGEEWVQKYVDDLELSA (SEQ ID No. ~~117~~ 128)

Line 15 of the old specification (line 12 of the new specification) on page 26 has been amended as follows:

KGVSLSYRCPCRFF$(CH_2)_n$ EEWVQKYVDDLELSA (SEQ ID No. ~~118~~ 129)

Line 16 on page 48 has been amended as follows:

purging autoreactive or cancerous cells using autologous or ~~allgenic~~ allogenic grafts, or

Line 23 on page 49 has been amended as follows:

QEYLEKALN-COOH (SEQ ID No.1)

Line 24 on page 49 has been amended as follows:

CTCE9908: $[KGVSLSYR]_2$-K-$CONH_2$ (SEQ ID Nos.130 and 131)

Line 25 on page 49 has been amended as follows:

CTCE9907: KGVSLSYRC($CONH_2$)-($CONH_2$)CRYSLSVGK (SEQ ID No.132)

Line 26 of the old specification (lines 26 and 27 of the new specification) on page 49 has been amended as follows:

CTCE0014: KGVSLSYRCPCRFF-GGGG- LKWIQEYLEKALN- COOH (SEQ ID No.74)

Line 27 of the old specification (line 28 and 29 of the new specification) on page 49 has been amended as follows:

CTCE0018: KGVSLSYRCPCRFF-GGGG- LKWIQEYLEKALN- $CONH_2$ (SEQ ID No.133)

Line 29 of the old specification (line 31 of the new specification) on page 49 has been amended as follows:

lactamization (SEQ ID No.134)

Line 31 of the old specification (line 33 of the new specification) on page 49 has been amended as follows:

lactamization (SEQ ID No.135)

Line 32 on page 49 of the old specification (line 1 and 2 on page 50 of the new specification) has been amended as follows:

CTCE0016: KGVSLSYRCPCRFFESH-GGGG- LKWIQEYLEKALN- COOH (SEQ ID No.75)

The paragraph beginning at line 30 of the old specification (beginning at line 33 of the new specification) on page 50 has been amended as follows:

In Table 1, SDF-1 (G2) is the peptide KGVSLSYRCPCRFFESHVARANVKHLKILNTPACALQIVARLKNNNRQVCIDPKLKWIQEYLEKALN-COOH (SEQ ID No.1), CTCE9907 is the peptide $[KGVSLSYRC\text{-}CONH_2]_2$ (SEQ ID No.132), CTCE9908 is the peptide $[KGVSLSYR]_2K\text{-}CONH_2$ (SEQ ID Nos.130 and 131), CTCE0012 is the peptide KGVSLSYRCPCRFFESHVARANVKHLKILNTPACALQIVARLKNNNRQVCIDPKLKWIQEYLEKALN-COOH (SEQ ID No.1), CTCE0016 is the peptide KGVSLSYRCPCRFFESH-GGGG-LKWIQEYLEKALN-COOH (SEQ ID No.75), and CTCE0017 is the peptide KGVSLSYRCPCRFF-GGGG-LKWIQEYLEKALN-$CONH_2$ (SEQ ID No.133)

The paragraph beginning at line 23 of the old specification (beginning at line 28 of the new specification) on page 51 has been amended as follows:

In Figure 2, the Control represents untreated cells, CTCE9907 is the peptide [KGVSLSYRC-$CONH_2$]$_2$ (SEQ ID No.132), CTCE9908 is the peptide [KGVSLSYR]$_2$K-$CONH_2$ (SEQ ID No.130 and 131), CTCE0012 is the peptide KGVSLSYRCPCRFFESHVARANVKHLKILNTPACALQIVARLKNNNRQVCIDPKLKWIQ EYLEKALN-COOH (SEQ ID No.1), CTCE0016 is the peptide KGVSLSYRCPCRFFESH-GGGG-LKWIQEYLEKALN-COOH (SEQ ID No.75), and CTCE0017 is the peptide KGVSLSYRCPCRFF-GGGG-LKWIQEYLEKALN-$CONH_2$ (SEQ ID No.133).

The paragraph beginning at line 13 of the old specification (beginning at line 17 of the new specification) on page ~~51~~ 52 has been amended as follows:

In Figure 3, the Control represents untreated cells, CTCE9907 is the peptide [KGVSLSYRC-$CONH_2$]$_2$ (SEQ ID No. 132), CTCE9908 is the peptide [KGVSLSYR]$_2$K-$CONH_2$ (SEQ ID Nos.130 and 131), CTCE0012 is the peptide KGVSLSYRCPCRFFESHVARANVKHLKILNTPACALQIVARLKNNNRQVCIDPKLKWIQ EYLEKALN-COOH (SEQ ID No.1), CTCE0016 is the peptide KGVSLSYRCPCRFFESH-GGGG-LKWIQEYLEKALN-COOH (SEQ ID No.75), and CTCE0017 is the peptide KGVSLSYRCPCRFF-GGGG-LKWIQEYLEKALN-$CONH_2$ (SEQ ID No.133).

In the Claims:

Claim 10 has been amended as follows:

10. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

a) KGVSLSYRCPCRFFESH (SEQ ID No. 13)

b) KGVSLSYRC (SEQ ID No. 14)

Claim 11 has been amended as follows:

11. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

KGVSPSYRCPCRFFESH (SEQ ID No. ~~17~~ 18)

KGVSL**P**YRCPCRFFESH (SEQ ID No. ~~18~~ 19)

KGVSLS**P**RCPCRFFESH (SEQ ID No. ~~19~~ 20)

KGVSLSY**P**CPCRFFESH (SEQ ID No. ~~20~~ 21)

KGVS**P***SYRCPCRFFESH (SEQ ID No. ~~21~~ 22)

KGVSL**P***YRCPCRFFESH (SEQ ID No. ~~22~~ 23)

KGVSLS**P***RCPCRFFESH (SEQ ID No. ~~23~~ 24)

KGVSLSY**P***CPCRFFESH (SEQ ID No. ~~24~~ 25)

KGVS**Btd**YRCPCRFFESH (SEQ ID No. ~~25~~ 26)

KGVSL**Btd**RCPCRFFESH (SEQ ID No. ~~26~~ 27)

KGVSLSBtdCPCRFFESH (SEQ ID No. ~~27~~ 28)

KGVS**P**SYRC (SEQ ID No. ~~28~~ 29)

KGVSL**P**YRC (SEQ ID No. ~~29~~ 30)

KGVSLS**P**RC (SEQ ID No. ~~30~~ 31)

KGVSLSY**P**C (SEQ ID No. ~~31~~ 32)

KGVS**P***SYRC (SEQ ID No. ~~32~~ 33)

KGVSL**P***YRC (SEQ ID No. ~~33~~ 34)

KGVSLS**P***RC (SEQ ID No. ~~34~~ 35)

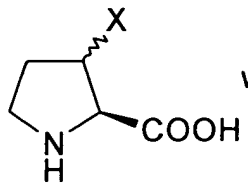
KGVSLSY**P***C (SEQ ID No. ~~35~~ 36)

KGVS**Btd**YRC (SEQ ID No. ~~36~~ 37)

KGVSL**Btd**RC (SEQ ID No. ~~37~~ 38)

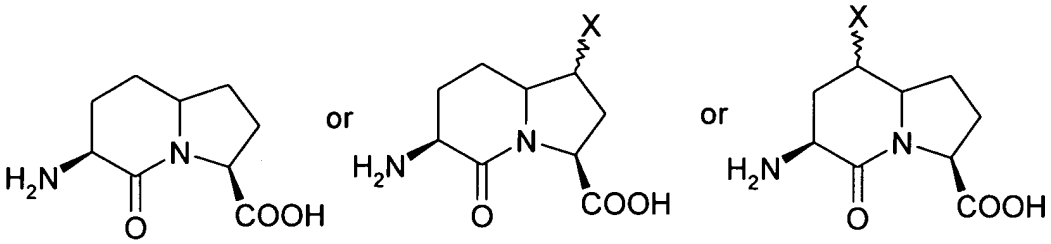
KGVSLS**Btd**C (SEQ ID No. ~~38~~ 39)

wherein P* =



with X= Ar, Ar-OH, alkyl and more

and Btd =



X= Alkyl, Ar, Ar-OH and more

Claim 12 has been amended as follows:

12. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of (SEQ ID Nos. 40-50):

KGVS**P**SYRC
|
KGVS**P**SYRC

KGVSL**P**YRC
|
KGVSL**P**YRC

KGVSLS**P**RC
|
KGVSLS**P**RC

KGVSLSY**P**C
|
KGVSLSY**P**C

KGVS**P***SYRC
|
KGVS**P***SYRC

KGVSL**P***YRC
|
KGVSL**P***YRC

KGVSLS**P***RC
|
KGVSLS**P***RC

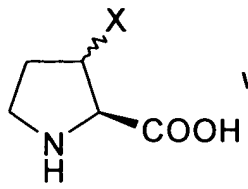
KGVSLSY**P***C
|
KGVSLSY**P***C

KGVS**Btd**YRC
|
KGVS**Btd**YRC

KGVSL**Btd**RC
|
KGVSL**Btd**RC

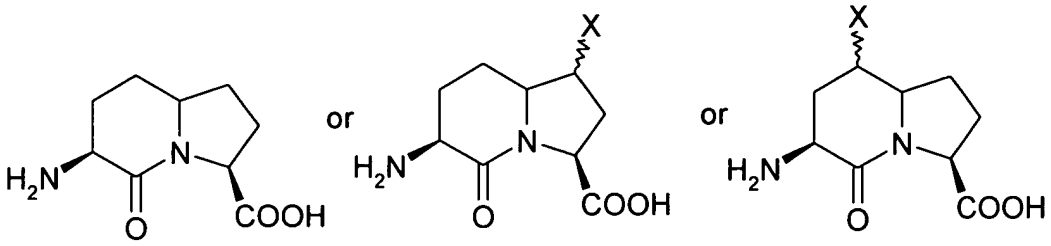
KGVSLS**Btd**C
|
KGVSLS**Btd**C

wherein P* =



with X= Ar, Ar-OH, alkyl and more

and Btd =



X= Alkyl, Ar, Ar-OH and more

Claim 13 has been amended as follows:

13. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of (SEQ ID Nos. 51-72):

KGVSPSYR — X — KGVSPSYR

KGVSLPYR — X — KGVSLPYR

KGVSLSPR — X — KGVSLSPR

KGVSLSYP — X — KGVSLSYP

KGVSP*SYR — X — KGVSP*YR

KGVSLP*YR — X — KGVSLP*YR

KGVSLSP*R — X — KGVSLSP*R

KGVSLSYP* — X — KGVSLSYP*

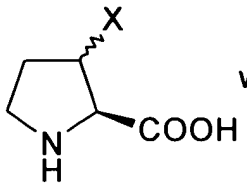
KGVS**Btd**YR — X — KGVS**Btd**YR

KGVSL**Btd**R — X — KGVSL**Btd**R

KGVSLS**Btd** — X — KGVSLS**Btd**

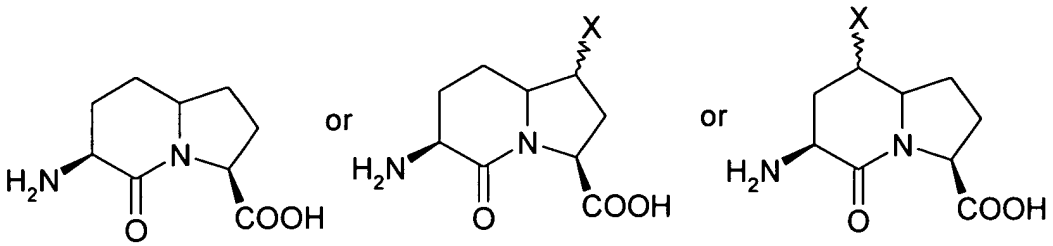
wherein X is a natural or unnatural amino acid linker between each of the arginines at position 8 in each sequence; and,

wherein P* =



with X= Ar, Ar-OH, alkyl and more

and Btd =



X= Alkyl, Ar, Ar-OH and more

Claim 14 has been amended as follows:

14. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

KGVSLSYRCPCRFF-G_n-LKWIQEYLEKALN (SEQ ID No. ~~63~~ 74)

KGVSLSYRCPCRFFESH-G_n-LKWIQEYLEKALN (SEQ ID No. ~~64~~ 75)

wherein n is an integer from 0 to 10.

Claim 15 has been amended as follows:

15 The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

KGVSLSYRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. ~~65~~ 76)

KGVSLSYRCPCRFFESH-$(CH_2)_n$-LKWIQEYLEKALN (SEQ ID No. ~~66~~ 77)

where n is an integer from 1 to 20.

Claim 16 has been amended as follows:

16. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the

group consisting of:

KGVS**P**SYRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No.78);

KGVSL**P**YRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No.79);

KGVSLS**P**RCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No.80);

KGVSLSY**P**CPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No.81);

KGVS**P**SYRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No.82);

KGVSL**P**YRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No.83);

KGVSLS**P**RCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No.84);

KGVSLSY**P**CPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No.85);

KGVS**P**SYRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.86);

KGVSL**P**YRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.87);

KGVSLS**P**RCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.88);

KGVSLSY**P**CPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.89);

KGVS**P**SYRCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.90);

KGVSL**P**YRCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.91);

KGVSLS**P**RCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No.92);

KGVSLSY**P**CPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No.93),

wherein n is an integer from 1 to 20.

Claim 17 has been amended as follows:

17. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

KGVS**P***SYRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 94);

KGVSL**P***YRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 95);

KGVSLS**P***RCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 96);

KGVSLSY**P***CPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 97);

KGVS**P***SYRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 98);

KGVSL**P***YRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 99);

KGVSLS**P***RCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 100);

KGVSLSY**P***CPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 101);

KGVS**P***SYRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 102);

KGVSL**P***YRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 103);

KGVSLS**P***RCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 104);

KGVSLSY**P***CPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 105);

KGVS**P***SYRCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 106);

KGVSL**P***YRCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 107);

KGVSLS**P***RCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 108);

KGVSLSY**P***CPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 109);

KGVS**Btd**YRCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 110);

KGVSL**Btd**RCPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 111);

KGVSLS**Btd**CPCRFF-GGGG-LKWIQEYLEKALN (SEQ ID No. 112);

KGVS**Btd**YRCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 113);

KGVSL**Btd**RCPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 114);

KGVSLS**Btd**CPCRFFESH-GGGG-LKWIQEYLEKALN (SEQ ID No. 115);

KGVS**Btd**YRCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 116);

KGVSL**Btd**RCPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 117);

KGVSLS**Btd**CPCRFF-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 118);

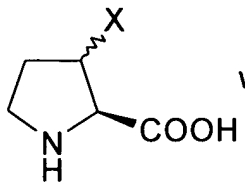
KGVS**Btd**YRCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 119);

KGVSL**Btd**RCPCRFFESH-$(CH_2)_n$–LKWIQEYLEKALN (SEQ ID No. 120);

KGVSLS**Btd**CPCRFFESH- $(CH_2)_n$ –LKWIQEYLEKALN (SEQ ID No. 121),

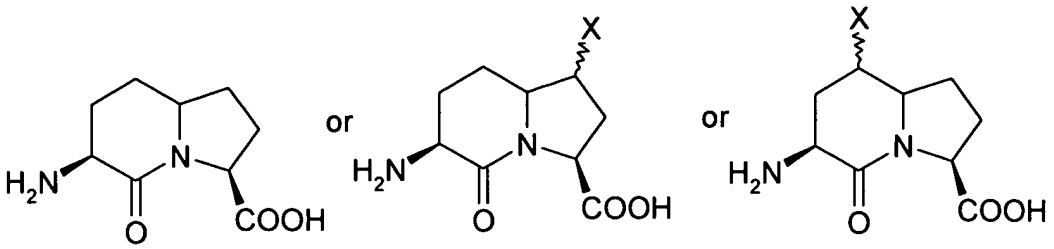
wherein n is an integer from 0 to 20 and

wherein P* =



with X= Ar, Ar-OH, alkyl and more

and Btd =



X= Alkyl, Ar, Ar-OH and more

Claim 18 has been amended as follows:

18. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of (SEQ ID Nos. 122-125):

KGVSLSYRCPCRFFGGGGLKWIQEYLEKALN

KGVSLSYRCPCRFFESHGGGGLKWIQEYLEKALN

KGVSLSYRCPCRFFGGGGLKWIQEYLEKALN

KGVSLSYRCPCRFFESHGGGGLKWIQEYLEKALN

Claim 19 has been amended as follows:

19. A CXCR4 antagonist peptide selected from the group consisting of (SEQ ID Nos. 122-125):

Claim 20 has been amended as follows:

20. The method of claim 8, wherein the CXCR4 antagonist peptide is selected from the group consisting of:

KGVSLSYRCPCRFFGGGGSKPGVIFLTKRSRQV (SEQ ID No. 126);

KGVSLSYRCPCRFF$(CH_2)_n$ SKPGVIFLTKRSRQV (SEQ ID No. 127);

KGVSLSYRCPCRFFGGGGEEWVQKYVDDLELSA (SEQ ID No. 128);

KGVSLSYRCPCRFF$(CH_2)_n$ EEWVQKYVDDLELSA (SEQ ID No. 129),

where n is 0 or an integer between 1 and 20.